

A small amount of glaze had formed by 7 a.m. and increased in thickness as long as the rain fell. In the late afternoon the coating of sleet and ice on the ground was 1 inch thick, and the glaze on trees, shrubbery, wires, etc.,  $\frac{1}{2}$  to  $\frac{3}{4}$  of an inch thick, except on the under side of wires and branches, where it was about  $\frac{1}{4}$  of an inch. Icicles by the millions were suspended close together from wires, fences, bridge railings, eaves of buildings, and other horizontal objects. These were from 2 to 4 inches long on wires and as much as 10 or 12 inches on other objects, and contributed enormously to the total weight of the ice and the consequent damage. The northern walls of buildings were plastered at least half an inch thick with the ice, and in some cases as much as two thirds of an inch. Shrubby, weeds, and grass were incased. The station anemometer showed less speed under the weight of the ice coating, and when this was removed at 2:45 p.m. the velocity showed an appreciable increase. Each cup of the anemometer had suspended horizontally from it an icicle 3 inches or more in length.

The scene presented by the ice was one of rare beauty, even during its formation when the sky was overcast and the rain and sleet falling, but early the following day, under a cloudless sky and in bright sunshine, the earth was indeed a fairyland of brilliance. Similar scenes and

conditions were noted throughout the central counties of the State, the storm being particularly heavy in the area known as the Central Basin and in the upper Cumberland Valley. However, very little ice remained at sunset of the next day.

The damage was enormous, particularly to trees and telephone, telegraph, and light wires and poles. Trees as much as 18 inches in diameter were split and some were uprooted, while others were broken off near the ground. Thousands of trees had large limbs broken, many falling upon light and power lines and disrupting the services. The damage was severe to evergreen trees, including magnolia, cedar, and pine. Fruit trees suffered considerably. Fortunately, the wind diminished as the ice attained its greatest thickness and remained light throughout the night and the following day.

The Southern Bell Telephone & Telegraph Co. estimates its loss in Tennessee roughly at \$250,000. They report some 4,100 poles down, many of them small. The Tennessee Electric Power Co. also suffered severe losses, as did the telegraph companies and the local telephone companies. It is believed that the total losses from the ice storm, exclusive of trees, will approximate \$350,000, and the removal of broken trees and other debris from the streets and highways was a big task.

## BIBLIOGRAPHY

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### RECENT ADDITIONS

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## SOLAR OBSERVATIONS

### SOLAR RADIATION MEASUREMENTS DURING MARCH, 1934

By IRVING F. HAND, Assistant in Solar Radiation Investigations

For a description of instruments employed and their exposures, the reader is referred to the January 1932 REVIEW, page 26.

Table 1 shows that solar radiation values were close to normal at all three Weather Bureau stations.

Table 2 shows a deficiency in the total solar radiation received on a horizontal surface at Washington, Madison,

Pittsburgh, Fairbanks, and Miami, and an excess at all other stations.

Polarization observations obtained at Washington on 5 days give a mean of 61 percent with a maximum of 65 percent on the 15th. Both of these values are close to the March normals. At Madison observations were taken on the 27th only and the value then obtained, 60 percent, is below the mean for March.